

Explanation of Amendments in the Claims:

1. (currently amended) A method of triacylglyceride production comprising:

increasing production of triacylglycerides in an organism by transforming an the organism with an introduced DNA encoding a protein having glycerol-3-phosphate acyltransferase (GPAT) activity;

growing the organism under conditions such that said glycerol-3-phosphate acyltransferase is expressed prior to harvesting and said organism has higher triacylglyceride content compared to a control;

and

harvesting the triacylglycerides from seeds from the organism.

2. (previously presented) The method of claim 1, wherein the organism is a plant.

3. (previously presented) The method of claim 2, wherein the plant is an oilseed bearing plant.

4. (previously presented) The method of claim 2, wherein the plant is of the genus *Brassica*.

5. (previously presented) The method of claim 2, wherein the plant is *Arabidopsis thaliana*.

6. cancelled.

7. cancelled.

8. cancelled.

9. cancelled.

10. cancelled.

11. cancelled.

12. (previously presented) The method of claim 1, wherein the DNA is a DNA having a sequence as recited in SEQ ID NO: 2, or a variant thereof having at least 70% sequence identity to SEQ ID NO: 2.

13. cancelled.

14. cancelled.

15. cancelled.

16. cancelled

17. (currently amended) A method of triacylglyceride production comprising:

transforming an organism with a vector, wherein the vector comprises a DNA encoding a protein comprising SEQ ID NO: 7, or a protein having the same function comprising a sequence having at least 70% homology with SEQ ID NO: 7;

growing the organism under conditions such that said protein is expressed prior to harvesting and said organism has higher triacylglyceride content compared to a control;

and

harvesting the triacylglycerides from seeds of the organism.

18. cancelled.

19. cancelled.

20. cancelled.

21. Cancelled

22. Cancelled

23. Cancelled

24. Cancelled

25. Cancelled

26. Cancelled.

27. Cancelled..

28. Cancelled

29. cancelled.

30. Cancelled.

31. Cancelled.

32. Cancelled

33. Cancelled

34. Cancelled.

35. Cancelled.

36. Cancelled.

37. Cancelled

38. cancelled.

39. Cancelled

40. cancelled.

41. cancelled.

42. cancelled.

43. Cancelled

44. cancelled.

45. cancelled.

46. (new) The method of claim 1, wherein the DNA encodes a protein comprising a sequence that differs from SEQ ID NO: 7 but has at least 70% sequence homology with SEQ ID NO: 7 and the same function as the protein of SEQ ID NO: 7.

47. (new) The method of claim 1, wherein the DNA comprises a sequence encoding a protein comprising SEQ ID NO: 7.

48. cancelled.

49. cancelled.

50. cancelled.

51. cancelled.